



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

m-f

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,398	05/07/2001	Kazutoshi Yasunaga	P19926	1049
7055	7590	08/08/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			OPSASNICK, MICHAEL N	
			ART UNIT	PAPER NUMBER
			2626	
DATE MAILED: 08/08/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/849,398	YASUNAGA ET AL.	
	Examiner	Art Unit	
	Michael N. Opsasnick	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/29/2006 has been entered.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 21,22,24,25,28, and 29 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1,3,4,5,7,18,19,21 of U.S. Patent No.

Art Unit: 2626

6330535. Although the conflicting claims are not identical, they are not patentably distinct from each other because although the claims of the 6330535 patent contain additional limitations detailing the structure of the input vector, the claimed relationship between the input vector, storage system, and convolution system are similar in scope to the claim scope of claims 21,22,24,25,28, and 29 of the current application.

4. Claims 21,22,24,25,28, and 29 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1,4,6,7,18,19, and 21 of U.S. Patent No. 6947889. Although the conflicting claims are not identical, they are not patentably distinct from each other because although the claims of the 6947889 patent contain additional limitations detailing the structure of the input vector, the claimed relationship between the input vector, storage system, and convolution system are similar in scope to the claim scope of claims 21,22,24,25,28, and 29 of the current application.

5. Claims 21-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6421639 in view of Hosada et al (5727122).

As per claims 21-30, U.S. Patent No. 6421639 teaches all of the claim elements (as found in claims 2-6, 9, of 6421639) except for the claim element of using the modified excitation vector into the synthesis filter in a CELP system, however, Hosada et al (5727122) teaches the concept of modifying the excitation vector for eventual use into the synthesis filter (Hosada et al (5727122), col. 6 lines 19-25, e_{scl} being the modified

Art Unit: 2626

excitation vector of e_{sl} ; Fig. 1, from subblock 114 to 115 to 105.) Therefore, it would have been obvious to one of ordinary skill in the art of speech signal processing at the time the invention was made to modify the invention as claimed in '639 with a modified excitation vector because it would advantageously incorporate the transfer function of the conversion circuit itself (Hosoda et al (5727122), col. 6 lines 24-25).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosoda et al (5727122) in view of Aoyagi et al (5752223).

As per claims 21,28, Hosoda et al (5727122) teaches a modified excitation vector generator used in a CELP speech encoder/decoder, coupled to an algebraic codebook and synthesis filter (as CELP system, abstract, fig.1) comprising:

“a vector providing system configured to provide an input excitation vector from said algebraic codebook” as the excitation codebook (fig. 1, subblock 108, and Fig. 2, subblock 205);

“a waveform providing system configured to provide a waveform from memory”
as the codebooks storing the waveform (col. 7 lines 40-45);

“a convolution system configured to convolute said waveform with said input
excitation vector to generate a modified excitation vector” as convolutional processing
(col. 6 lines 19-21);

“wherein said modified excitation vector is provided as an input to the synthesis
filter” as modified e_{sc1} enters the synthesis filter (col. 6 lines 19-25, e_{sc1} being the
modified excitation vector of e_{s1} ; Fig. 1, from subblock 114 to 115 to 105).

As per claims 21,28, Hosoda et al (5727122) does not detail the waveform being
fixed in nature, however, Aoyagi et al (5752223) teaches the waveform being fixed in
nature (Fig. 10, subblock 150, and 152, showing the fixed waveforms, and col. 14 lines
35-44). Therefore, it would have been obvious to one of ordinary skill in the art of
speech signal processing at the time the invention was made to modify the codebook
structure of Hosoda et al (5727122) to be fixed in nature as taught by Aoyagi et al
(5752223) because it would advantageously provide a codebook scheme that would take
advantage of the codebook combination as taught by Aoyagi et al (5752223) in providing
more natural reproduced speech, as well as improved modeling of transient signals in
speech (Aoyagi et al (5752223), col. 9 lines 1-46).

As per claims 22,27,30, the combination of Hosoda et al (5727122) in view of
Aoyagi et al (5752223) teaches spreading the input excitation vector over a new vector

Art Unit: 2626

basis (Hosoda et al (5727122)), as dictated by the h impulse response over a subframe (col. 6 lines 30-35).

As per claim 23, the combination of Hosoda et al (5727122) in view of Aoyagi et al (5752223) teaches linear convolution (Hosoda et al (5727122)), col. 6 lines 19-21, referring to equation (5)).

As per claims 24-26, 29, the combination of Hosoda et al (5727122) in view of Aoyagi et al (5752223) teaches a plurality of non-zero, fixed waveforms for the subframe (Hosoda et al (5727122)), col. 6 lines 19-25, the codebooks referring back to the indexed coefficients (col. 6 lines 10-20).

Response to Arguments

8. Applicant's arguments with respect to claims 21-30 have been considered but are not persuasive. As per applicant's arguments pertaining to the Hosada reference not teaching a stored fixed waveform, examiner argues that the waveform used in Aoyagi et al (5752223) is indeed a stored fixed waveform (Fig. 10, subblock 150, and 152, showing the fixed waveforms, and col. 14 lines 35-44). Examiner notes that the portion of the Aoyagi system that is not fixed in nature, or the "variant", is the portion associated with the adaptive signal (Aoyagi et al (5752223) col. 7 lines 5-63). As per applicant's arguments on page 3 of the response, examiner

Art Unit: 2626

notes that the excitation vector of Hosoda et al (5727122), as well as Aoyagi et al (5752223), contains a waveform fixed in nature, as noted above.


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (571)272-7623, who is available Tuesday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richemond Dorvil, can be reached at (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mno
8/6/06


Michael N. Opsasnick
Examiner
Art Unit 2626